

NOTES: Fish Passage Working Group #1

Meeting Held: 03.26.18

Notes prepared by Consensus Building Institute

Next Meeting: 4/18, 11:00-3:00 @ Ukiah Valley Conference Center

MUST READS for 4/18

- Planning pacific salmon and steelhead reintroductions aimed at long-term viability and recovery. Anderson et al. North American Journal of Fisheries Management (2014)
- Staff paper: Review of fish passage technologies at high head dams. Northwest Power and Conservation Council. (Dec. 2016). Document number 2016-14

Action Items (organized by person)

All	4/6	Contribute citations for studies and reports on Google Doc to inform work and post on web site - see notes in meeting summary for reminders
All	4/15	Send Gina@cbi.org any comments on charter
All	4/18	Read must-reads and be prepared to discuss at 4/18 meeting
Allan R	4/4	Make fish passage data available for posting
Dawn A	4/4	Check and share for posting any Forest Service habitat studies
Jon M	4/4	Send draft criteria for evaluating passage options to Gina and Joshua
Joshua David Allan	4/4	Provide feedback on draft objectives for fish passage
Joshua	4/5	Prepare 2-page summary of Recovery Plans (to Gina)
Joshua	4/18	Present key elements of Recovery Plans
Paul K	4/6	(if possible) share Mead and Hunt article on fish passage with CBI for distribution for 4/18 meeting
Paul K	4/18	Investigate ladder outages and explanations

Objectives

The group brainstormed objectives for fish passage for the Potter Valley Project. Rather than worry whether ideas were metrics of success, goals, objectives, or outcomes, the group generated ideas, captured below. Several group members volunteered to work on a draft set of objectives for discussion at the next meeting.

Shared Ideas

Establish viable sustainable population of anadromous species in areas that were inhabited historically above Scott Dam.

Annual cohort of Chinook, coho, steelhead and lamprey, reproducing and reaching above Lake Pillsbury to the Eel River.

All native species - all salmonids and lamprey - all life stages and all seasons.

Biological viability: some threshold population that can be self-sustaining.

Ecological recovery. We want to have the abundant fisheries as keystone to ecosystem - that ultimately supports the harvestable surplus.

These species have been used for subsistence. Fish that stayed and died there left a lot of nutrients in the river.

Water quality from septic and agriculture affect the river.

Fish passage should not preclude recovery. Recovery plans for three species already exist; however, meeting those objectives and target populations maybe not be achievable. Viability is another concept. The group can be flexible about the abundance targets.

Historic range of species above Lake Pillsbury might be different then it would be now. Abundance needs some variability.

Recovery Plans can provide biological context, i.e. what it takes to create viable species.

Provide for upstream and downstream passage

Downstream migration for juvenile should be maximized as much as possible

Maximize habitat availability above Scott Dam and Lake Pillsbury.

Restore geomorphic processes.

Mimic natural hydrology and sediment transport.

Consider delisting criteria.

Consider multi-species habitat criteria.

Minimize operation and maintenance. Least amount of human intervention required. Prefer passage that minimizes the amount of delay.

Manage dam maintenance and seismic safety as part of fish passage solutions.

Volitional Passage

Volitional passage is long term, meaning that fish can go when they want to go with the least amount of disturbance or intervention. Movement of the fish is assisted transportation or not. (If it lifts the fish vertically, it is not volitional.) The group agreed that they may need to define volitional passage more clearly.

Non-passage biological solutions

Predatory species and hot spots associated with pike minnow - do we want to minimize non-native species.

Water supply on the Russian River doesn't seem to be part of the fish passage. Water balance on both rivers is instrumental, but the water supply group will manage those flows required for fish passage.

Information Needs

The group identified information needs and existing information and science to support its work. The working group will have to rely on the best available science for its efforts. Participants are able to contribute [citations on this Google doc](#).

For each species, **behavior and life cycle**, when do they come? When would it affect operations? What kinds of flows are necessary? What behavior and life-cycle considerations affect passage?

Population structure

- Josh will summarize TRT and recovery plan presentation and brief 2-pager at next meeting.

Summer run

- Allan Renger

Seasonal capacity

Seasonal capacity for fish: run timing, and number of fish, daily and hourly

- Josh: Ven Arsdale knows of information - 1920s data collected.

Current passage capacity

Analysis of **current passage capacity at Cape Horn Dam** for salmonids, adults and juveniles, Lampray, and Sacramento sucker.

- This is under development for the FERC.
- PGE has flow data that exists (in the Pre-application document - PAD)
- Allan Renger provide CDFW adult fish passage data over time.

Tributaries to Lake Pillsbury

Which ones will provide fish habitat?

- NMFS' model as part of the recovery plan and more detailed mapping.
- Emily Cooper's work.
- Older studies done on habitat.
- Native Fish Society has temperature information.
- PG&E has some.
- VTN Report (1982) and has a study of analysis on the amount of habitat available.
- ACTION: DAWN check with Forest on habitat studies.

Passage efficiency

Maintenance issues of fish passage and overall availability of that ladder is important. This information is recorded, but not easily crafted into a report.

- **ACTION** - Paul will investigate ladder outages and reasons why outages occurred.

Decommissioning

Cal Trout has hired McBain and Associates to study decommissioning Scott Dam and raising Coyote Dam and will include some cost estimates. Goal is to have the study this year.

Water flows and elevation

Reservoir curves. Need statistical analysis in certain months and different year types. (need to know this to know if you can have any passage based on flows). It would be great to have this in one data set. (all of this is part of the study plan under FERC over the next 2 years). Lacking good information on inflow. Elevation flows are greatly variable.

- **ACTION** - Paul: **PRE-APPLICATION DOCUMENT (PAD)** Water elevation and flow information has been publicly available for a while. The PAD had 10-year elevation and supply. Pre-application document.
- **PG&E hired Mead and Hunt** to do some fish passage work, which is done. Now having Mead and Hunt developing a summary to share with this group prior to the April 18 meeting.

Engineering - passage designs

- **HOMEWORK: PGE review of fish passage tech at high head dams (may not include Lamprey)**
- Moyle, fish passage and salmonids.
- Service collectors
- 2014 paper - planning pacific salmon and steelhead reintroductions aimed at long-term viability and recovery

Site constraints

Important to define site constraints, including physical and engineering constraints with existing facilities: some will be in the Mead and Hunt report.

Reservoir conditions (quality and temperature) as it relates to survival and juveniles migrating through the reservoirs. Part of the study plan includes modeling. PGE has put in vertical rays in the last few years.

Ranking criteria

- Is it volitional
- Impacts to fish passage and recreation
- **ACTION: Jon Mann will share criteria and matrix.**

Next Meeting

- **Populations** - Josh present recovery plans' key elements and provide a two-pager.

Future Agenda Items

- Establish common definitions.

